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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,407	01/22/2004	Masahiro Fujiwara	Q79228	3317

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EXAMINER	
LE, HOA T	

ART UNIT	PAPER NUMBER
1773	

DATE MAILED: 08/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/761,407	FUJIWARA ET AL.	
	Examiner	Art Unit	
	H. T. Le	1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 March 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) *8,9 and 11-13* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,10,14 and 15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Election/Restrictions

2. Applicant's affirmation of election of claims 1-7 and 10 in the reply filed on March 24, 2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Accordingly, claims 8, 9 and 11-13 stand withdrawn from consideration.

Response to Arguments

3. Claims 1, 3-5 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by the Fowler article as applied to the rejection to claims 1 and 3-5 set forth in the last office action and further discussed below.

Applicant argued that the Fowler article "discloses a mesoporous silica having a channel-like hexagonally ordered structure and containing covalently-linked chemically active groups such as alkyl, aryl, allyl, thiol, amino, epoxy, imidazole or chromophore moieties." Applicant is correct only up to the imidazole moieties. Note that the functionalized hexagonally ordered structure that the examiner applied in the rejection is the previous work of the same author, not the one presently reported in the article. See page 1825, left column, third paragraph, where it states, "previously, we have described....." In that previous structure, chromophore is not included in the hexagonally ordered structure evident by the

subsequent sentence in the Fowler article: "to the best of our knowledge, the work reported here is the first example of the direct synthesis of an ordered mesoporous silica containing covalently linked organic chromophore functionalities." Rather as applicant has correctly pointed out, the chromophore was present as an additive, not as a functional group.

Applicant further argued that the functional groups are present within the pores citing the paragraph bridging pages 1825 and 1826 that states "... reduced porosity due to pendent chromophore moieties that extend into the channel spaces". Note that the chromophores there are present as a covalent coupling material to the already functionalized mesoporous structure in which the functional groups do not include chromophores (as discussed above). Therefore, the materials that are present within the pore of the mesoporous structure are not the same functional groups mentioned in the "previous work".

4. Claims 1-5 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by the Asefa article as applied to the rejection to claims 1-5 set forth in the last office action and further discussed below.

Applicant argued that the Asefa does not explicitly disclose or suggest that an ethane group of the mesoporous ethenesilica may form a bond with another ethene group based on a chemical reaction in response to an external stimulus. Contrary to Applicant's argument, the Asefa articles states that the ethene groups "are readily accessible for chemical reaction" (see Asefa, p. 867, right column). In addition, the language "capable of" as employed in claim 1 is not a limitation in any patentable sense.

The ethene groups are said to have been "incorporated into the framework of the periodic mesoporous silica" (p. 868, right column, first paragraph, emphasis added). The word "framework" suggests that the ethene groups are incorporated on the periphery of the pores of the silica rather being filled insider the pores. Thus, it meets the claim phrase "not present within said pores".

5. Claims 6, 7, 10 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over either the Fowler article or the Asefa article in combination with the teaching of the WO '357 patent as applied to the rejection to claims 6, 7 and 10 set forth in the last office action and further discussed below.

The same argument was made to the Fowler and Asefa article, i.e. neither of the references teaches or suggests functionalizing only the entrances of the mesoporous materials. Responses to such argument have been discussed in sections 3 and 4 above. In addition, with regard to claim 14, the language "capable of" is not a limitation in any patentable sense.

6. Applicant's arguments filed March 24, 2005 have been fully considered but they are not persuasive for the reasons set forth above. However, the arguments are effective to overcome the rejections to claims 6 and 10 under 35 USC 102.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to H. T. Le whose telephone number is 571-272-1511. The examiner can normally be reached on 10:00 a.m. to 6:30 p.m., Mondays to Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-272-1284. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



H. T. Le
Primary Examiner
Art Unit 1773